



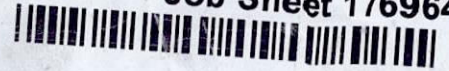
Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

AOG

D4680-041

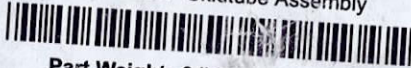
Job Sheet 176964



Part No: D4680-041

Part Name: Skidtube Assembly

Job Qty: 1 ea



Part Weight: 0 lbs

Job Created: 5/3/18

Due Date: 5/25/18

Type: AOG

Status: Scheduled

Job Tracking No:

Created By: Michelle Gagnon-Donovan

Priority: AOG

Description:

Note: DWG REV F IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup hrs	Run Hrs	Workcenter/Supplier	Lead Time	Sgn-off
90	Start up Operation	1 Ea					Workcenter / Supplier		
120	Skidtubes	1 pcs	5/25/18	5/25/18	0.00	0.00	Start Up Skidtubes-2		BE
140	QC	1 pcs	5/25/18	5/25/18	0.00	4.86	Skidtubes-2		BE
150	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		DAS
160	QC	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish1		38
170	Skidtubes	1 pcs	5/25/18	5/25/18	0.00	0.00	QC7-4		SA1806-15
180	QC	1 pcs	5/25/18	5/25/18	0.00	4.86	Skidtubes-2		BE
210	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		DAS
220	Powdercoat	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish2		38
230	QC	1 pcs	5/25/18	5/25/18	0.00	0.17	Powdercoat1		BE
260	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.00	QC3		BE
270	QC	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish4		BE
300	Packaging	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		DAS
310	QC21-SA	1 Ea	5/25/18	5/25/18	0.00	0.00	Packaging3-2		DAS
							QC21		SRB

Part Op 120 - 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 open aft cap 0.187" cleco in aft cap, then Pilot all X-Bolt holes using 0.187" drill. 6-Open ground wire hole .297" at 95.75" (1 at fwd end & 2 at aft end at 20.81" ref.) 10- Oper Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLE ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Deburr holes.

SIMPLE
133787
DEC 22 2018

170 - 1- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doublet per Dwg D4680. A/R Proseal Batch: 1306784 exp date: 9/18 ***LET IT CURE FOR 7HR START remove
TIME: 10-06-19 FINISH TIME: 18-06-20 3- Rivet doublers as per dwg Shave rivet as required D4680
Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per D4680
and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per Q102
210 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.
220 - START TIME: 11-25 OUT: 3:00 FINISH: 12:05 M13889
260 - 1- Install Ground Wire inserts as per Dwg D4680. 3- Install Fwd & Aft caps as per Dwg D4680 and D4680 & "B".
Fastener must be install wet as per note (9). 4- Wing Walk as per Dwg D4680 and QSI 005 4.4

004129

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 Ea (1 ea)	90-Start up Operation	5071475
D5520-1	Doubler	2 Ea (2 ea)	120-Skidtubes	5045659
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skidtubes	5045061120
D4681-041	Web Assembly	1 Ea (1 ea)	170-Skidtubes	5070345
AELS-1032-130	Rivnut	3 Ea (3 ea)	260-HandFinish	5007176
AN3C4A	Bolt	3 Ea (3 ea)	260-HandFinish	50668642
AN3C5A	Bolt	2 Ea (2 ea)	260-HandFinish	5057153
AN526C1032R10	Screw	2 Ea (2 ea)	260-HandFinish	50716642
D2965	Cap	1 Ea (1 ea)	260-HandFinish	5045482
D2965-3	Cap	1 Ea (1 ea)	260-HandFinish	F124369
D4686-1	Spacer	8 Ea (8 ea)	260-HandFinish	5063873
D5304-1	Crossbolt Spacer	2 Ea (2 ea)	260-HandFinish	5053016
MS20601-AD4W3	Rivet	32 Ea (32 ea)	260-HandFinish	5066173-1
NAS1149C0332R	Washer	5 Ea (5 ea)	260-HandFinish	5056453
D4753-1	Doubler	16 Ea (16 ea)	300-Packaging	5069627

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D4680-041-BENT	1	0	0
120-Skidtubes	D5520-1	2	22	0
170-Skidtubes	CR3212-5-05	68	918	0
	D4681-041	1	2	0
260-HandFinish	AELS-1032-130	3	0	0
	AN3C4A	3	2,121	0
	AN3C5A	2	1,925	0
	AN526C1032R10	2	73	0
	D2965	1	89	0
	D2965-3	1	39	0
	D4686-1	8	106	0
	D5304-1	2	33	0
	MS20601-AD4W3	32	1,071	0
	NAS1149C0332R	5	6,100	0
300-Packaging	D4753-1	16	50	0

Part Specifications

Specifications could not be found.

agnon.Michelle

Container No: S076212

Part: D4680 - 041
Job No: 176964
Serial No/Batch: S076212
Revision: F
Inspector:

2ART
AEROSPACE

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Email: sales@dartaero.com
www.dartaerospace.com

Date: 05/30/18

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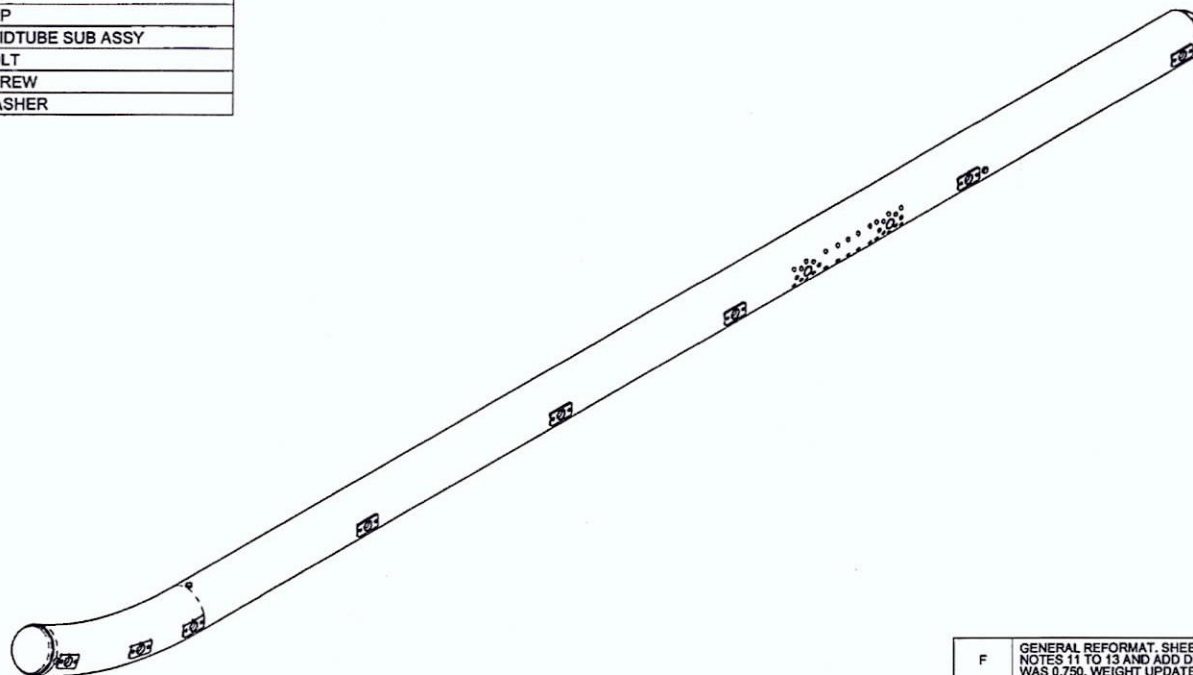
WITHOUT NOTICE

WORK ORDER

NO. 176964

MAY 03 2018

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	1	D4680-043	SKIDTUBE SUB ASSY
4	2	AN3C5A	BOLT
5	2	AN526C1032R10	SCREW
6	2	NAS1149C0332R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP
- 7) WEIGHT: 19.3 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT
- 9) INSTALL FASTENERS WET WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT

RELEASED
2017-08-11
ECN 17-547

APPROVED

F	GENERAL REFORMAT. SHEET 3: ADD ITEMS 6 & 11 ADD NOTES 11 TO 13 AND ADD DETAIL H. SHEET 5: Q/O.188 WAS 0.750. WEIGHT UPDATE. ADD PROSEAL 1422	AJS	17.03.30
E	GROUND HANDLING CROSSBOLT SPACERS NOW SWAGED, WAS WELDED, REMOVED D3492-055 PLUG ASSEMBLIES	AP	15.11.02
D	MOVED AFT GROUNDING FASTENER HOLE AFT 0.25 DUE TO INTERFERENCE, ADDED NOTE 9 (SHT 1), GROUNDING STRAP WASHERS NOW STAINLESS	AP	15.03.04
C	NAS1149C0332P WAS AN960-10L, AN526C1032R10 WAS AN526C1032-10, FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3), Q/O.750 WAS Q/O.758 (B4-3)	AP	14.07.29
B	FWD CAP WAS D2965 NOW D2965-3, VARIOUS DIMENSIONAL CHANGES, D3492-055 PLUG ASSY WAS D3492-051, SWAGING DIMENSION NOW 0.650 WAS 0.661 (D8-2), ADDED DETAIL H (C2-3), MATERIAL D2962-150 WAS D2962-131 (A7-3), GROUND HANDLING THRU HOLES NOW WELDED, ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 1 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	17.03.30	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

AN526C1032R10
SCREW
2 PL
9

D2965-3
CAP
8

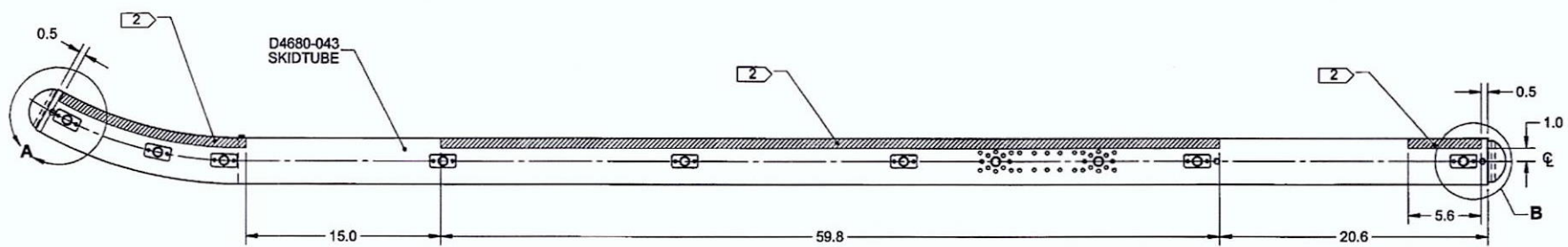
DETAIL A
SCALE 4X

8

D2965
CAP

AN3C5A BOLT
NAS1149C0332R WASHER
2 PL
9

DETAIL B
SCALE 4X



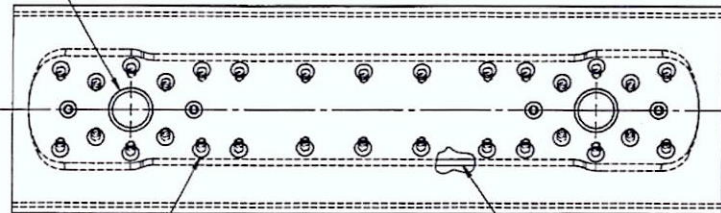
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2017-08-11

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DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 2 OF 5
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ITEM	QTY	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	1	D4680-1	SKIDTUBE
2	1	D4681-041	WEB ASSY
3	8	D4686-1	SPACER
4	16	D4753-1	DOUBLER
5	2	D5304-1	CROSSBOLT SPACER
6	2	D5520-1	DOUBLER
7	3	AN3C4A	BOLT
8	32	MS20601AD4W3	RIVET, BLIND, CSK
9	3	NAS1149C0332R	WASHER
10	3	AELS-1032-130	INSERT
11	68	CR3212-5-05	CSK RIVET, CHERRY MAX

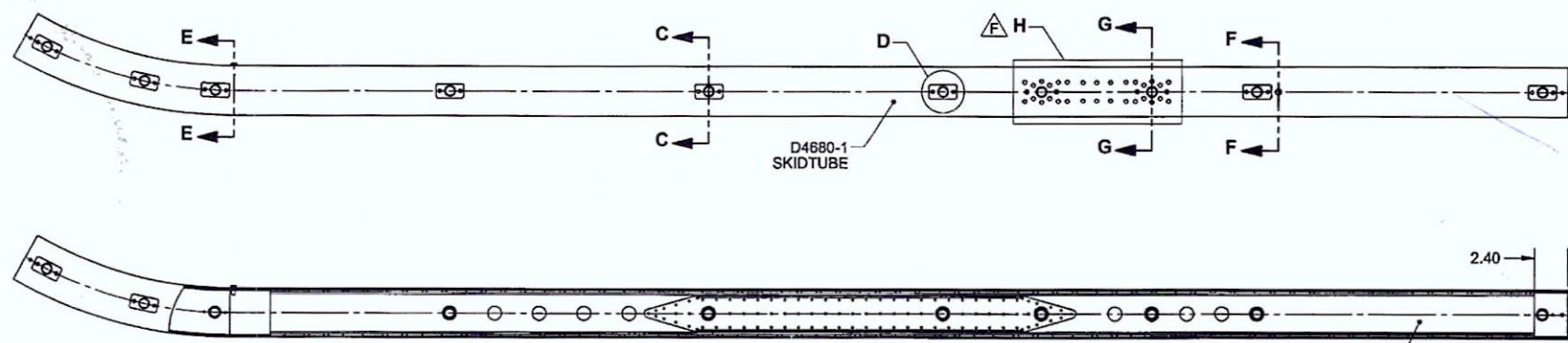
OPEN TO
Ø0.750
THRU 2 PL



13 12 CR3212-5-05
CSK RIVET, CHERRY MAX
34 PL PER DOUBLER

DETAIL H
SCALE 4X

11 D5520-1 DOUBLER
2 PL



D4680-043 SKIDTUBE SUB ASSY

9 D4681-041
WEB ASSY

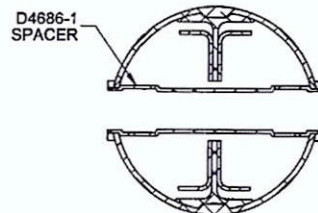
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB. POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 18.6 lbs
- 8) SEAL ALL MATING SURFACES USING PROSEAL 890/1422 OR MIL-S-8802 CLASS B2 SEALANT
- 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
- 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
- 11) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309
- 13) COUNTERSINK THE SKIDTUBE Ø0.286 X 100° (34 PL) AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS

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2017-08-11

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MFG. APPR.	DP	D4680	SHEET 3 OF 5
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DE APPR.	DS	SKIDTUBE	NTS
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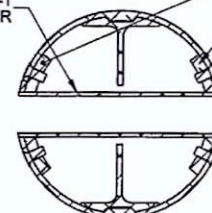


10 SECTION C-C
SCALE 4X
8 PL

INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D

1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 +0.010/-0.000 \times 1.0$
3. TRIM/GRIND FLUSH PER QSI 002

D5304-1
CROSSBOLT SPACER



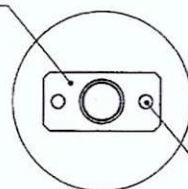
SECTION G-G
SCALE 4X
2 PL

D5520-1 DOUBLER
REF

INSTALL D5304-1 SPACER AS FOLLOWS (2 PL)

1. INSERT D5304-1 SPACER
2. SWAGE TO $\phi 0.565 +0.005/-0.000 \times 1.0$
3. OPEN THRU HOLE TO $\phi 0.625$

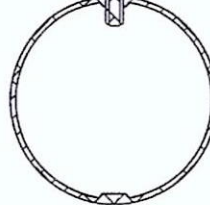
8
D4753-1
DOUBLER



DETAIL D
16 PL (BOTH SIDES)
SCALE 4X

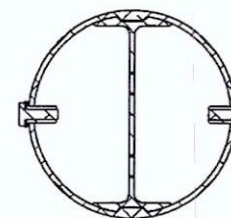
MS20601AD4W3
RIVET, BLIND, CSK
2 PL

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT



SECTION E-E
SCALE 4X

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT
2 PL



SECTION F-F
SCALE 4X

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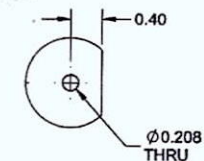
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DATE	17.03.30

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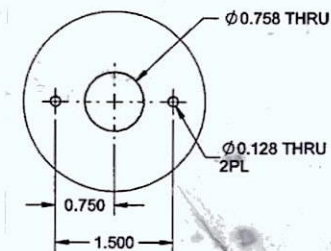
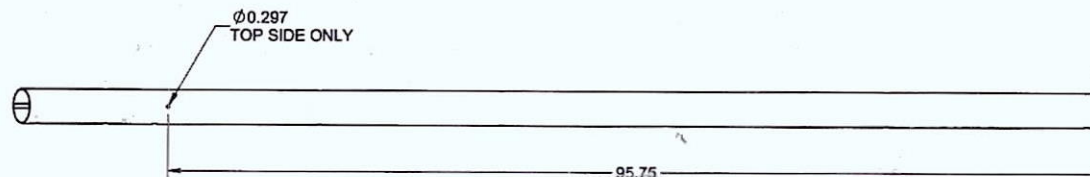
DRAWING NO. REV. F
D4680 SHEET 4 OF 5
TITLE SCALE
SKIDTUBE NTS

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D4680-1 SKIDTUBE BENDING/TRIMMING DETAIL

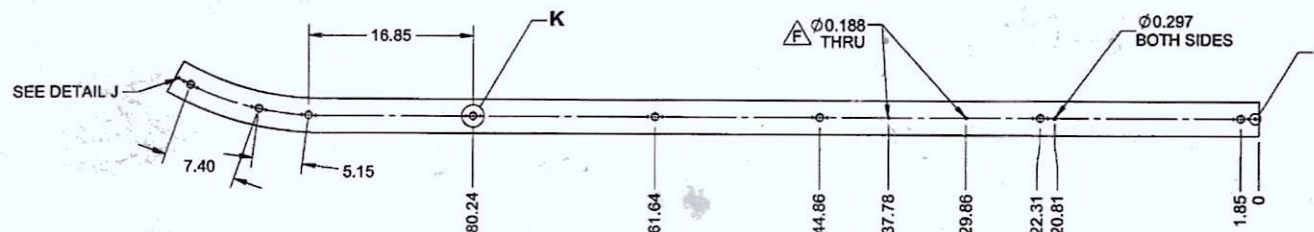


DETAIL J
SCALE 8X
2 PL



DETAIL K
SCALE 8X
8 PL

D4680-1 SKIDTUBE DRILLING DETAIL



- NOTES:**
- 1) MATERIAL: MAKE FROM D2962-150 EXTRUSION
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 11.36 lbs

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2017-08-11

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DATE	17.03.30

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EUGENE, OR

DRAWING NO.
D4680

REV. F
SHEET 5 OF 5

TITLE
SKIDTUBE

SCALE
NTS

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Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4680-041

Job Sheet 176965



Part No: D4680-041

Job Qty: 1 ea

Part Name: Skidtube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: AOG

Job Created: 5/3/18

Job Tracking No:

Due Date: 5/25/18

Created By: Michelle Gagnon-Donovan

Type: AOG

Description:

Note: DWG REV F IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:C 14.11.24 AS PER DWG REV.C DD VERF:JLM IPP REV:D 15.06.10 AS PER DWG REV.D DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	5/25/18	5/25/18	0.00	0.00	Start Up Skidtubes-2		BE
120	Skidtubes	1 pcs	5/25/18	5/25/18	0.00	4.86	Skidtubes-2		BE DAS 38
140	QC	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		38
150	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish1		SA 18-06-15
160	QC	1 pcs	5/25/18	5/25/18	0.00	0.00	QC7-4		BE
170	Skidtubes	1 pcs	5/25/18	5/25/18	0.00	4.86	Skidtubes-2		BE DAS 38
180	QC	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		38
210	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish2		BE 18-06-26
220	Powdercoat	1 pcs	5/25/18	5/25/18	0.00	0.17	Powdercoat1		BE 18-06-24
230	QC	1 pcs	5/25/18	5/25/18	0.00	0.00	QC3		BE 18-06-22
260	HandFinish	1 pcs	5/25/18	5/25/18	0.00	0.73	HandFinish4		BE 18-06-27
270	QC	1 pcs	5/25/18	5/25/18	0.00	0.00	QC5		38
300	Packaging	1 pcs	5/25/18	5/25/18	0.00	0.00	Packaging3-2	DAS 21	TRB 9-DAS 28
310	QC21-SA	1 Ea	5/25/18	5/25/18	0.00	0.00	QC21	21	JUL 03 2018 9:59

Part Op 120 - 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 open aft cap 0.187". 4-Locate Descriptions: DT10149 & Drill Ground wire hole on top of Tube. 5-Locate DT10149 with 0.187" cleco in aft cap, then Pilot Drill all X-Bolt holes using 0.187" drill. 6-Open ground wire hole .297" at 95.75" (1 at fwd end & 2 at aft end at 20.81" ref.) 8- 3 most fwd x-bolt holes must be laid out manually, open to #30. 9-Open Aft & Fwd Cap holes using .208" drill. 10- Open X-Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Deburr holes.

SIXTIFLEX
138787
DEC 22 2018

170 - 1- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680. A/R Proseal Batch: 138787 exp date: 9/18 ***LET IT CURE FOR 7HRS*** START TIME: 18-06-19 FINISH TIME: 18-06-20 3- Rivet doublers as per dwg Shave rivet as required, remove Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per Dwg D4680 and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per QSI 002 210 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch. 220 - START TIME: 11:55 CUT 300 FINISH: 12:25 M138839 260 - 1- Install Ground Wire inserts as per Dwg D4680. 3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B". Fastener must be install wet as per note (9). 4- Wing Walk as per Dwg D4680 and QSI 005 4.4

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 Ea (1 ea)	90-Start up Operation	5071475
D5520-1	Doubler	2 Ea (2 ea)	120-Skidtubes	5045639
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skidtubes	5073 50611 30
D4681-041	Web Assembly	1 Ea (1 ea)	170-Skidtubes	5070345
AELS-1032-130	Rivnut	3 Ea (3 ea)	260-HandFinish	5068642
AN3C4A	Bolt	3 Ea (3 ea)	260-HandFinish	5057153
AN3C5A	Bolt	2 Ea (2 ea)	260-HandFinish	50716642
AN526C1032R10	Screw	2 Ea (2 ea)	260-HandFinish	5045782
D2965	Cap	1 Ea (1 ea)	260-HandFinish	F126369
D2965-3	Cap	1 Ea (1 ea)	260-HandFinish	5056478
D4686-1	Spacer	8 Ea (8 ea)	260-HandFinish	5063873
D5304-1	Crossbolt Spacer	2 Ea (2 ea)	260-HandFinish	5055019
MS20601-AD4W3	Rivet	32 Ea (32 ea)	260-HandFinish	506693-1
NAS1149C0332R	Washer	5 Ea (5 ea)	260-HandFinish	506443
D4753-1	Doubler	16 Ea (16 ea)	300-Packaging	5069627

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D4680-041-BENT	1	0	0
120-Skidtubes	D5520-1	2	22	0
170-Skidtubes	CR3212-5-05	68	918	0
	D4681-041	1	2	0
260-HandFinish	AELS-1032-130	3	0	0
	AN3C4A	3	2,121	0
	AN3C5A	2	1,925	0
	AN526C1032R10	2	73	0
	D2965	1	89	0
	D2965-3	1	39	0
	D4686-1	8	106	0
	D5304-1	2	33	0
	MS20601-AD4W3	32	1,071	0
	NAS1149C0332R	5	6,100	0
300-Packaging	D4753-1	16	50	0

Part Specifications

Specifications could not be found.

Part: D4680-041
 Job No: 176965
 Serial No/Batch: 5076113
 Revision: F
 Inspector:



Container No: 5076113

Dart Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL.: 1 813 632-5200
 Email: sales@dartaero.com
 www.dartaerospace.com

Date: 05/30/18

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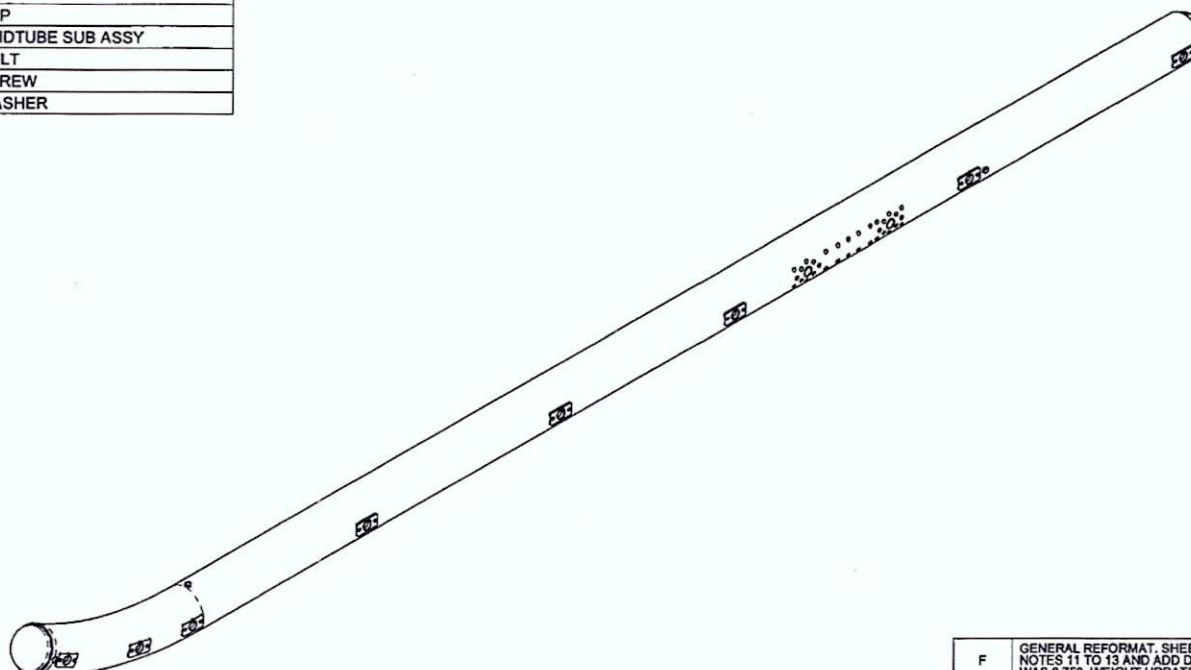
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WITHOUT NOTICE
WORK ORDER

NO. 176965

MAY 03 2018

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	1	D4680-043	SKIDTUBE SUB ASSY
4	2	AN3C5A	BOLT
5	2	AN526C1032R10	SCREW
6	2	NAS1149C0332R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP
- 7) WEIGHT: 19.3 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT
- 9) INSTALL FASTENERS WET WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT

F	GENERAL REFORMAT, SHEET 3: ADD ITEMS 8 & 11 ADD NOTES 11 TO 13 AND ADD DETAIL H. SHEET 5: Ø0.188 WAS 0.750, WEIGHT UPDATE, ADD PROSEAL 1422	AJS	17.03.30
E	GROUND HANDLING CROSSBOLT SPACERS NOW SWAGED, WAS WELDED, REMOVED D3492-055 PLUG ASSEMBLIES	AP	15.11.02
D	MOVED AFT GROUNDING FASTENER HOLE AFT 0.25 DUE TO INTERFERENCE, ADDED NOTE 9 (SHT 1), GROUNDING STRAP WASHERS NOW STAINLESS	AP	15.03.04
C	NAS1149F0332P WAS AN960-10L, AN526C1032R10 WAS AN526C1032-10, FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3), Ø0.750 WAS Ø0.758 (B4-3).	AP	14.07.29
B	FWD CAP WAS D2965, NOW D2965-3, VARIOUS DIMENSIONAL CHANGES, D3492-055 PLUG ASSY WAS D3492-051, SWAGING DIMENSION NOW 0.650 WAS 0.661 (D8-2), ADDED DETAIL H (C2-3), MATERIAL D2962-150 WAS D2962-131 (A7-3), GROUND HANDLING THRU HOLES NOW WELDED, ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 1 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	17.03.30	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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2017-08-11
ECN 17-547

APPROVED

AN526C1032R10
SCREW
2 PL
9

D2965-3
CAP
8

DETAIL A
SCALE 4X

D2965
CAP
8

AN3CSA BOLT
NAS1149C0332R WASHER
2 PL
9

DETAIL B
SCALE 4X

D4680-043
SKIDTUBE

15.0

59.8

20.6

0.5

1.0

5.6

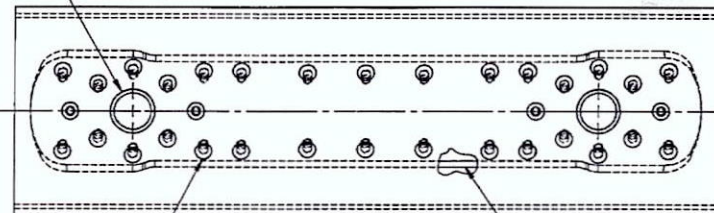
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MFG. APPR.	DP	D4680	SHEET 2 OF 5
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2017-08-11

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ITEM	QTY	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	1	D4680-1	SKIDTUBE
2	1	D4681-041	WEB ASSY
3	8	D4686-1	SPACER
4	16	D4753-1	DOUBLER
5	2	D5304-1	CROSSBOLT SPACER
6	2	D5520-1	DOUBLER
7	3	AN3C4A	BOLT
8	32	MS20601AD4W3	RIVET, BLIND, CSK
9	3	NAS1149C0332R	WASHER
10	3	AELS-1032-130	INSERT
11	68	CR3212-5-05	CSK RIVET, CHERRY MAX

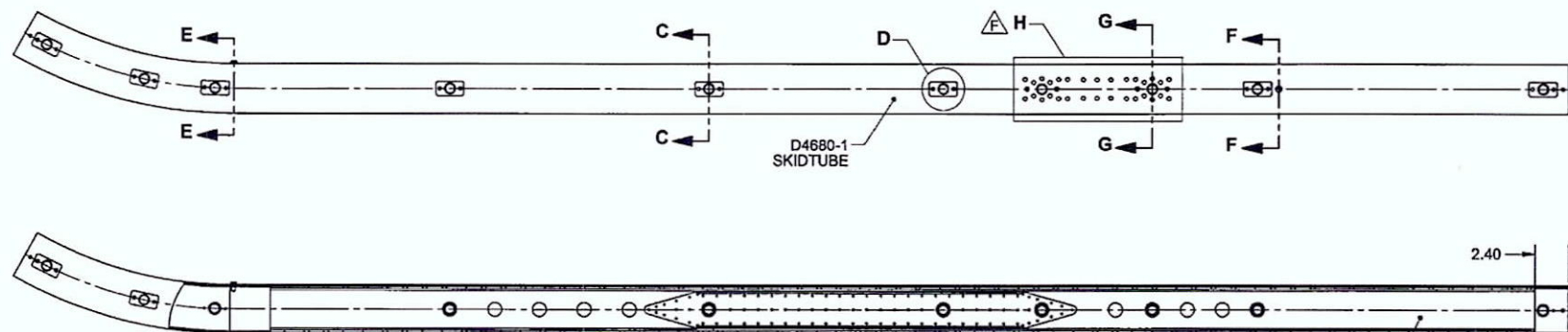
OPEN TO
Ø0.750
THRU 2 PL



13 12 CR3212-5-05
CSK RIVET, CHERRY MAX
34 PL PER DOUBLER

DETAIL H
SCALE 4X

11 D5520-1 DOUBLER
2 PL



D4680-043 SKIDTUBE SUB ASSY

9 D4681-041
WEB ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB. POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 18.6 lbs
- 8) SEAL ALL MATING SURFACES USING PROSEAL 890/1422 OR MIL-S-8802 CLASS B2 SEALANT
- 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
- 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
- 11) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309
- 13) COUNTERSINK THE SKIDTUBE Ø0.286 X 100° (34 PL) AND INSTALL E/CH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS

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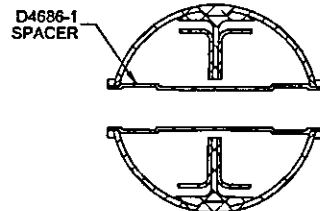
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APPROVED	WM
DE APPR.	DS
DATE	17.03.30

DART AEROSPACE USA, INC.
EUGENE, OR

DRAWING NO. REV. F
D4680 SHEET 3 OF 5
TITLE SCALE
SKIDTUBE NTS

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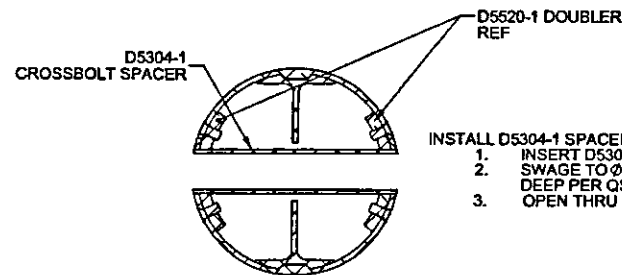


D4686-1
SPACER

INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D

1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 \pm 0.010/-0.000 \times 1.0$
DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002

10 SECTION C-C
SCALE 4X
8 PL



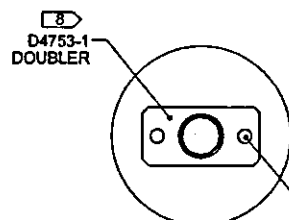
D5304-1
CROSSBOLT SPACER

D5520-1 DOUBLER
REF

INSTALL D5304-1 SPACER AS FOLLOWS (2 PL)

1. INSERT D5304-1 SPACER
2. SWAGE TO $\phi 0.565 \pm 0.005/-0.000 \times 1.0$
DEEP PER QSI 002
3. OPEN THRU HOLE TO $\phi 0.625$

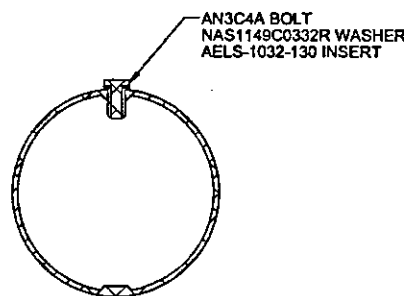
SECTION G-G A
SCALE 4X
2 PL



8 D4753-1
DOUBLER

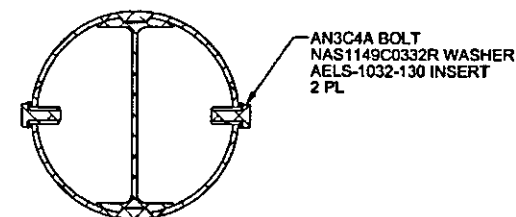
MS20601AD4W3
RIVET, BLIND, CSK
2 PL

DETAIL D
16 PL (BOTH SIDES)
SCALE 4X



AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT

SECTION E-E
SCALE 4X



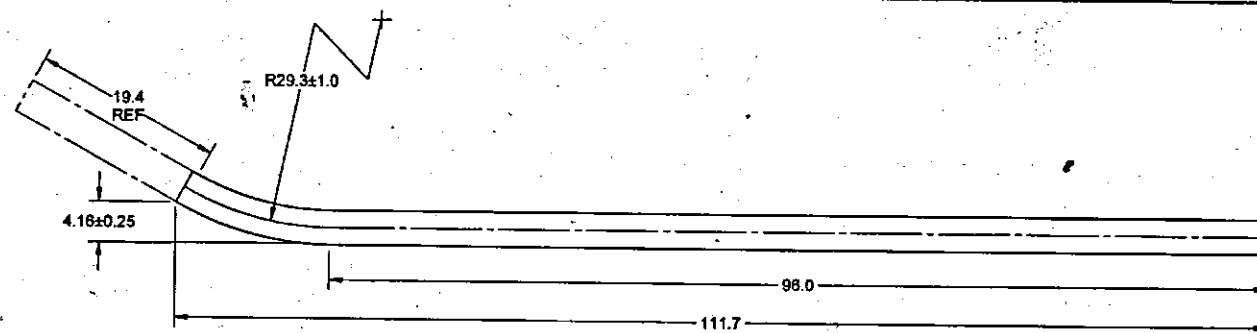
AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT
2 PL

SECTION F-F
SCALE 4X

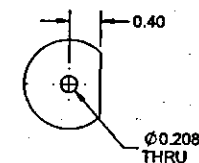
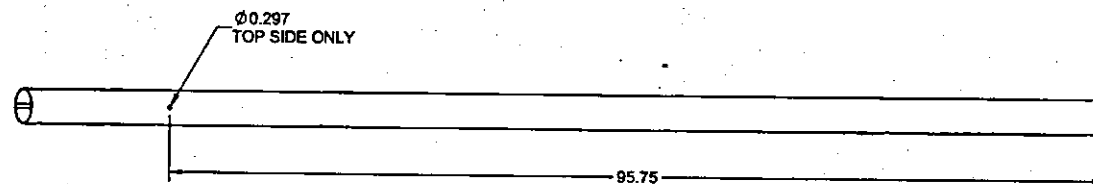
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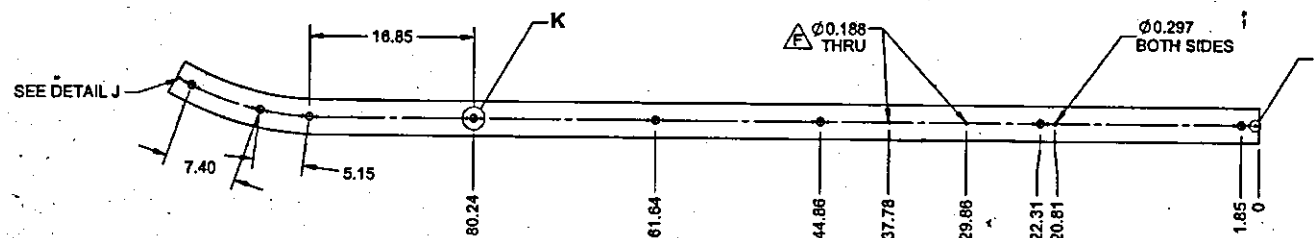
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DE APPR.	DS-#	SKIDTUBE	NTS
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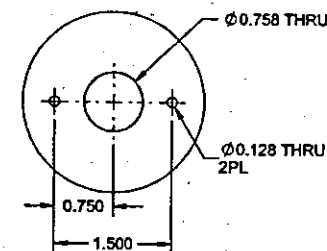
D4680-1 SKIDTUBE BENDING/TRIMMING DETAIL



DETAIL J
SCALE 8X
2 PL



D4680-1 SKIDTUBE DRILLING DETAIL



DETAIL K
SCALE 8X
8 PL

- NOTES:**
- 1) MATERIAL: MAKE FROM D2962-150 EXTRUSION
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 11.36 lbs

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